

Abstract of the Disclosure

A method is provided for robustly and efficiently identifying contours in an image of an object. Features are extracted from an image, typically using a Sobel edge detector or a set of large oriented filters, and are locally chained to form contour segments of particular character, such as line segments. A spatial hash table is used to access the contour segments according to the location of their endpoints. Candidate sets for joining to grow contours are reduced by considering only segments having ends in adjacent spatial hash bins. Contour constraints are applied to appropriately choose among the candidates to form contours. The method facilitates robust and efficient scratch detection of fiber-optic end faces, or of any surface that may have smoothly curved scratches.

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